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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,080	09/28/2001	D. Scott Lineback	876P142	7616
26568	7590	08/19/2004	EXAMINER	
COOK, ALEX, MCFARRON, MANZO, CUMMINGS & MEHLER LTD SUITE 2850 200 WEST ADAMS STREET CHICAGO, IL 60606			PRATT, HELEN F	
			ART UNIT	PAPER NUMBER
			1761	

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/967,080

**Applicant(s)**

LINEBACK ET AL.

**Examiner**

Helen F. Pratt

**Art Unit**

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 22-37, 39 and 40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 22-27, 39 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black, Jr. et al. (Black et al.) (5,403,604) in view of Lawhon et al. (4,643,902) and Dechow et al. (4,522,836) and Puri (4,439,458).

Black et al. '458 disclose a process of removing sugar from juices, which can be single strength juice, using a nanofiltration membrane to divert the initial juice flow to make a high and low sugar containing juice fraction (abstract). The initial juice flow is separated into two portions because the fruit juice is first passed through an ultrafiltration membrane to remove pulp, cloud and oils. The permeate is then passed through nanofiltration to remove fruit juice sugars (col. 2, lines 15-15). The reference discloses that the acid content of both fractions can be 0.8%, but can be lower or higher if desired by employing a NF membrane, which controls the acid permeability according to the desired result (col. 4, lines 56-64). The reference discloses combining juice streams from ultrafiltration and nanofiltration, which have had the sugar, removed (col. 2, lines 49-55), col. 7, lines 16-20). Claims 1 -3 differ from the reference in the steps of cooling the juice to 45 F. and in deacidifying the solids reduced juice by contact with an ion-exchange resin. Lawhon et al. disclose that it is known that the aroma and flavor

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components in juices are easily volatilized at temperatures above 40 C. and that the acid content of juice can be reduced by passing it through an ion-exchange column (col. 1, lines 20-25 and col. 3, lines 23-30). Dechow et al. disclose that it is known to reduce the acid in juices using ion exchange and the treated product can be blended with untreated juice to make a blend (abstract). Also Puri discloses in the "background of the Invention" in Japanese Laid-Open Patent Application no. 18971, that it is known to filter insoluble solids from fruit juice to less than 0.5% and to treat with anion exchange resins to remove acid from the fruit juice then mixing with a nonacid fruit juice (col. 3, lines 16-40). Therefore, it would have been obvious to one of ordinary skill in the art to treat juice streams as shown by Black with ion exchange in place of NF because Lawhon et al. disclose that it is known to pass UF permeates or retentates through an ion-exchange column, and Dechow and Puri disclose that it is well known to treat juices with ion-exchange.

The independent claims further require that the pH of the deacidified juice exiting the column with a pH of greater than 4.5 is reduced by adding juice to the resin column in particular ratio's. Lawhon discloses that the normal-acid RO retentate was mixed with reduced acid RO retentate in different ratios to give reduced-acid juices having Brix/titratable acid ratios within the range desired (col. 15, lines 1-5). Nothing new or unexpected is seen in the particular time of measuring the pH and adding more juice to reduce the pH, as it would not have been practical to do so before this time. Therefore, as Lawhon discloses that it is known to adjust the reduced acid retentate to achieve a particular acidity, it would have been obvious choose a practical time to add the regular

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juice for this function particularly, as Lawhon discloses adding normal acid RO juice to the reduced acid juice in the first place.

Claim 4 further requires that the both portions of the juice should be pasteurized with reduction of active enzymes in same portion or both portions. Lawhon et al. disclose that it is known that pasteurization can be used to destroy spoilage microorganisms, which can result in undesirable off flavors and odors. The product can be heated to 62 C. Nothing is seen that enzymes cannot also be deactivated at this temperature. Deactivation would also depend on the temperature and the time at that temperature. Therefore, it would have been obvious to pasteurize in the process of the combined references to reduce microorganisms and enzymes.

Claim 6 requires that the suspended solids should be reduced to less than 2 % and claim 7, 1% and claim 8 that particular methods of separating are claimed. The JP no. 18971 discloses that the insoluble solids (suspended solids) should be reduced to 0.5% before treating with anion exchange resins and can be separated by centrifugation (col. 3, lines 17-30). Therefore, it would have been obvious to remove the solids to the claimed degree using centrifugation before further treatment in the process of the combined references.

Claims 9 –12 further require adding an initial single strength juice to the deacidified juice lowers the pH from 4.5 to 4.3. Lawhon et al. disclose that it is known to provide whatever acid reduction is desired, and that a reduced-acid RO retentate can be mixed in different ratios with normal acid RO retentate for use in juice reconstitution (col. 11, lines 10-17). Various ph's are given in the Table 10 including those below 4.5.

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Therefore, it would have been obvious to combine the juices to make a product within the claimed range in the process of the combined references.

Claim 13 further requires that various portions of the juice be recombined.

Lawhon et al. disclose that various retentates can be mixed to give various characteristics such as Brix/titratable acid ratios with a range desired (col. 15, lines 1-6). Therefore, it would have been obvious to use various amounts of juice streams to make the claimed product.

Claims 22-32 require a not-from-concentrate juice, claim 33 requires a single strength juice or a NFC juice, claim 34 a NFC juice, and claim 35 is to a low-acid not - from concentrate orange juice whose limitations have been disclosed above in the combined references and are obvious for those reasons.

Claims 36, 37, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above combined references as applied to claims 1-13, 22-35 above, and further in view of Norman et al. (4,666,721).

Norman et al. disclose a reduced acid juice from orange juice as in claims 36-40. Even though a different method is disclosed of making the juice, it is reduced in acid (abstract and (col. 2, lines 1-5 and col. 5, lines 40-50). Claim 36 differs from the reference in the particular TA. However, as acids have been removed from the juice, it would have been within the skill of the ordinary worker to reduce to a particular TA depending on the juice and the taste required. The further limitations of the claims have been discussed above. Therefore, it would have been obvious to reduce the acidity of

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a composition to a particular TA to make the claimed product, particularly as the claimed TA is disclosed in the above combined references.

Claims 36-40 are also product by process claims. The fact that the procedures of the reference are different than that of applicant is not a sufficient reason for allowing the product-by-process claims since the patentability of such claims is based upon the product formed and not the method by which it was produced. See *In re Thorpe* 227 USPQ 964. The burden is upon applicant to submit objective evidence to support their position as to the product-by-process claims. See *Ex parte Jungfer* 18 USPQ 2D 1796.

The further limitations as to titratable acidity (TA) is shown by Lawhon et al. in particularly, in Table 10, Run C. Other TA's which are close to the claimed TA are found in Runs D and F. Therefore, it would have been obvious to make a product with the claimed TA.

## ARGUMENTS

Applicant's arguments filed 8-5-04 have been fully considered but they are not persuasive. Applicants argue that the step of adding juice to the column when the acidity of the deacidified juice is low and contains undesirable microbial activity in the deacidified juice is a different step and that Lawhon et al. does not use a portion of the initial juice flow to combine with the reduced-acid portion, but uses the remainder of the non-reduced-acid RO retentate. However, it is seen that the claims do not exclude the use of a non-reduced-acid RO retentate.

Applicants argue that Lawhon et al. adds back the non-acid-reduced portion in juice reconstitution in order to make a final blend, and not immediately after deacidification to prevent microbial activity. However, Lawhon discloses as above, that it is known to adjust the acidity of the composition. Certainly, it would have been obvious to adjust it at the most useful point. As to the products, nothing has been shown that there is a difference in the composition due to this process method. As to the amount of juice added to reduce the pH, certainly, this is within the skill of the ordinary worker depending on the particular juice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen F. Pratt whose telephone number is 571-272-1404. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Milton Cano, can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hp 8-17-04

*H. Pratt*  
**HELEN PRATT**  
**PRIMARY EXAMINER**